INTRODUCTION

Watershed Analysis for Mendocino Redwood Company's Ownership in the Northern Russian River Watershed

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This report presents the results of a watershed analysis performed by Mendocino Redwood Company (MRC) on their ownership in the northern area of the Russian River watershed. The MRC ownership in the Russian River watershed near Ukiah, California is considered the Northern Russian River watershed analysis unit (WAU). MRC owns land near the outlet of the Russian River watershed in Sonoma County, however, that land was analyzed in the Willow/Freezeout Creeks Watershed Analysis (MRC, 2003). This section presents an overview of the watershed and the watershed analysis process followed by MRC.

Mendocino Redwood Company's Approach to Watershed Analysis

MRC is conducting watershed analysis on watersheds within its ownership in Northern California. The criteria for a watershed to be selected for analysis are: 1) impaired waterbodies pursuant to the Clean Water Act Section 303(d), and 2) key fish populations and 3) forestry operation-related concerns.

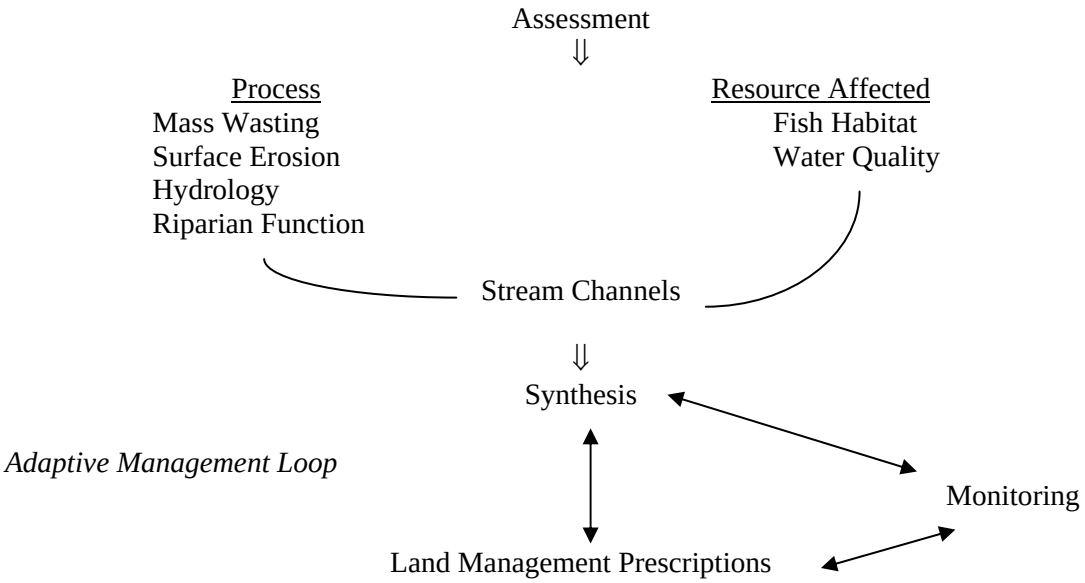
The Russian River is on the 303(d) list as sediment impaired and a total maximum daily load (TMDL) will be developed for sediment reduction in the watershed. The Russian River and its tributaries support populations of Chinook and coho salmon and steelhead trout, which are fisheries of concern in northern California. However, only steelhead trout rear in the North Russian River WAU. MRC conducted a watershed analysis to assist in their efforts to reduce non-point source pollution, evaluate current and past land management practices and establish a baseline for monitoring of watershed conditions over time. The watershed analysis will also be used to identify needs for site-specific management planning in the watershed to reduce impacts to aquatic resources and potentially to improve fish and stream habitat conditions.

The watershed analysis of the Northern Russian River WAU was conducted following modified guidelines from the Standard Methodology for Conducting Watershed Analysis (Version 4.0, Washington Forest Practices Board). Some variations of the methods in this manual were performed when it was determined that the methodology better served the purpose of this assessment. The watershed analysis process is not yet a regulatory requirement in the state of California. However, MRC is using this process to address cumulative effects from forest practices, provide baseline information of watershed conditions of aquatic habitat and water quality, and to prioritize restoration work for their ownership.

MRC's approach to the Northern Russian River watershed analysis was to perform resource assessments of mass wasting, surface and point source erosion (roads/skid trails), hydrology, fish habitat, riparian function and stream channel condition. Mass wasting, riparian function and surface and point source erosion modules address watershed hillslope hazards. The physical

processes associated with the hillslope hazards are described in the module reports. The vulnerability of aquatic resources is addressed by the fish habitat and stream channel condition modules. The results of the resource assessments are synthesized and reported in a causal mechanism report (Figure 1). A causal mechanism report is produced for hillslope hazards that has affected or has the potential to adversely affect aquatic resources and need site-specific protections. A prescription is developed to address the issues and processes identified in each causal mechanism report. Prescriptions are only identified where land management actions will deviate from MRC management policies. Finally, monitoring is suggested to determine the efficacy of the prescriptions to protect sensitive aquatic resources. The monitoring will provide the feedback for MRC's adaptive management approach to resource conservation.

Figure 1. Watershed Analysis Overview



Resources Utilized

This watershed analysis was produced from a combination of field observations performed during the summers of 2000-2001, aerial photograph interpretation, and use of existing analysis on the Northern Russian River WAU.

Existing data or analysis used in this watershed analysis included: Louisiana-Pacific's (L-P) Coastal Mendocino Sustained Yield Plan and monitoring data collected by L-P. These information sources are cited in each module as they are used.

Aerial photograph interpretation was performed using available aerial photographs for the recent time period. The delineation of time periods for analysis was based on the available aerial photographs. The aerial photographs used are described below.

Aerial Photo Year	Scale	Photo Source
1981	1:20000	Mendocino County
1987	1:12000	Mendocino Redwood Co.
1996	1:12000	Mendocino Redwood Co.
2000	1:13000	Mendocino Redwood Co.

Northern Russian River Watershed Analysis Unit Overview

The Northern Russian River WAU is located in the California Coast Range and drains into the Pacific Ocean in western Sonoma County, California. The outlet of the Russian River is located near the town of Jenner.

The MRC ownership is within four different planning watersheds in the Northern Russian River watershed as delineated by the California Water Agency. MRC owns approximately 22 percent of the land in the four planning watersheds of the Northern Russian River WAU (see Base Map, Northern Russian River Watershed Map and Table 1). The basin's elevations range from sea level to 3,178 feet. Rainfall is seasonal in this region, with most of the rain (approximately 48-58 inches/year, Table 1) occurring between October and May.

Table 1. Selected Physical Characteristics by Planning Watershed for the Northern Russian River WAU (from L-P's Coastal Mendocino SYP, 1997).

Planning Watershed	PWS #	Watershed Area (ac)	MRC Owned Area (ac)	MRC Owned Area (%)	Mean Annual Precipitation
Mill Creek	115.33011	6,778	205	3	53
Jack Smith Creek	115.33020	7,040	1,570	22.3	51
Upper Ackerman	115.31014	8,698	3,544	40.7	58
Lower Ackerman	115.31015	3,226	355	11	48

Fisheries

The anadromous fish species inhabiting the Northern Russian River WAU are steelhead trout (*Oncorhynchus mykiss).* Other non-salmonid species include sculpin (*Cottus* spp.), three-spine stickleback (*Gasterosteus aculeatus),* California roach (*Lavina symmeticus),* Sacramento sucker (*Castomus occidentalis)* and the Pacific lamprey (*Lampetra tridentata).*

LITERATURE CITED

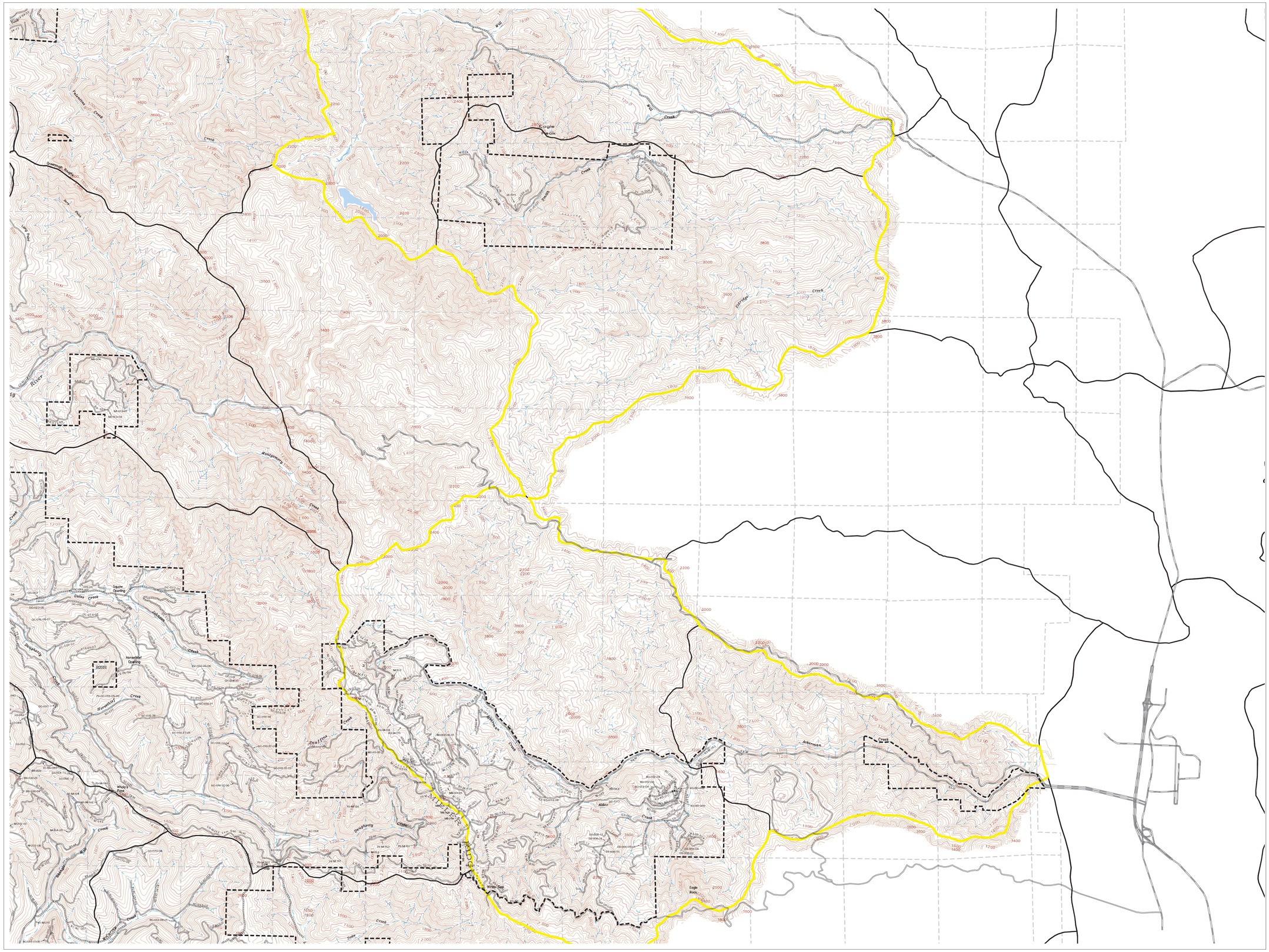
Louisiana-Pacific Corporation. 1997. Sustained Yield Plan for Coastal Mendocino.

Mendocino Redwood Company. 2003. Willow and Freezeout Creeks Watershed Analysis. Company Report, Fort Bragg, CA.

Washington Forest Practice Board. 1995. Standard methodology for conducting watershed analysis. Version 3.0. WA-DNR Seattle, WA.

Northern Russian River Watershed Analysis Unit

Base Map



- MRC Ownership
- Planning Watershed Boundary
- Northern Russian River Watershed Analysis Unit Boundary

Transportation

- Paved Road
- Rocked Road
- Native Road
- Jeep Trail

Flow Class

- Class I
- Class II
- Class III

Topography

- Index Contour (200' interval)
- Regular Contour (40' Interval)

0 1/2 1 Mile

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